BIRCH, STEWART, KOLASCH & BIRCH, LLP

INTELLECTUAL PROPERTY LAW

8110 GATEHOUSE ROAD
SUITE 500 EAST
FALLS CHURCH, VA 22042-1210
USA

(703) 205-8000

FAX: (703) 205-8050
(703) 698-8590 (G IV)

e-mail: mailroom@bskb.com
web: http://www.bskb.com

CALIFORNIA OFFICE
650 TOWN CENTER DRIVE, SUITE 1120
COSTA MESA, CA 92626-7125

TERRELL C. BIRCH
RAYMOND C. STEWART
JOSEPH A. KOLASCH
JAMES M. SLATTERY
BERNARD L. SWEENEY*
MICHAEL K. MUTTER
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GERALD M. MURPHY, JR.
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JOE McKINNEY MUNCY
ROBERT J. KENNEY
DONALD J. DALEY
JOHN W. BAILEY
JOHN A. CASTELLANO, III

OF COUNSEL:
HERBERT M. BIRCH (1905-1996)
ELLIOT A. GOLDBERG*
WILLIAM L. GATES*
EDWARD H. VALANCE
RUPERT J. BRADY (RET.)*
*ADMITTED TO A BAR OTHER THAN VA

GARY D. YACURA
THOMAS S. AUCHTERLONIE
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DARIN E. BARTHOLOMEW*
D. RICHARD ANDERSON
PAUL C. LEWIS
W. KARL RENNER
MARK W. MILSTEAD*
JOHN CAMPA*

REG. PATENT AGENTS.
FREDERICK R. HANDREN
ANDREW J. TELESZ, JR.
MARYANNE ARMSTRONG, PH D.
MAKI HATSUMI
MIKE S. RYU
CRAIG A. McROBBIE
GARTH M. DAHLEN, PH.D
LAURA C. LUTZ
ROBERT E. GOOZNER, PH.D.
HYUNG N. SOHN
MATTHEW J. LATTIG
ALAN PEDERSEN-GILES
JUSTIN D. KARJALA

Date: February 10, 2000
Docket No.: 0630-0982P

Assistant Commissioner for Patents
Box PATENT APPLICATION
Washington, D.C. 20231

Sir:

Transmitted herewith for filing is the patent application of

Inventor(s): CHO, Young-Soon
              KIM, Jae-Young; JUNG, Han

For: DIGITAL DATA FILE MANAGEMENT METHOD AND RECORDING MEDIUM
       FOR RECORDING DIGITAL DATA FILE MANAGEMENT PROGRAM THEREON

Enclosed are:

 X   A specification consisting of 13 pages

 X   2 __ sheet(s) of Formal ____ drawings

 X   An assignment of the invention

 X   Certified copy of Priority Document(s)

 X   Executed Declaration   ___ Original   X Photocopy

___ A verified statement to establish small entity status under 37
     CFR 1.9 and 37 CFR 1.27

___ Preliminary Amendment

___ Information Disclosure Statement, PTO-1449 and reference(s)

___ Other _____

The filing fee has been calculated as shown below:

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                              Respectfully submitted,

                              BIRCH, STEWART, KOLASCH & BIRCH, LLP

                              By _____
                                 JOSEPH A. KOLASCH
                                 Reg. No. 22,463
                                 P. O. Box 747
                                 Falls Church, Virginia 22040-0747

(703) 205-8000
JAK/dll

DIGITAL DATA FILE MANAGEMENT METHOD AND RECORDING
MEDIUM FOR RECORDING DIGITAL DATA FILE MANAGEMENT
PROGRAM THEREON

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates in general to a method for managing
digital data files, such as a digital audio data file and a digital video data file,
and a recording medium including a program for performing such
management.

2. Description of the Prior Art

Generally, an MP3 player is a type of digital data player for processing
digital data files. The MP3 player is new notional, portable digital audio
equipment capable of readily downloading and reproducing desired music
from a computer communication network using an audio data compression
coding technique prescribed in MPEG1 Layer3. In particular, the MP3
player has few faults and excellent sound quality because it stores music in
the form of an MP3 file. Further, the MP3 player is small in size and light in
weight, thereby allowing high activity uses such as being carried during
physical exercise. For these reasons, this product is being touted as an
alternative to a portable cassette tape recorder and compact disk (CD)
player.

For use in such an MP3 player, a digital data file is downloaded from a
file supplier (server) to a personal computer terminal via a communication
network such as the Internet and, in turn, to the MP3 player. The digital
data file downloaded as mentioned above may be uploaded from the MP3
player to the personal computer terminal, thereby causing a problem in
regard to copyright infringement.

On the other hand, when the supply of digital data players, like the
MP3 player, become more widely spread and issues such a copyright
protection are settled between digital data file suppliers and copyright

Attorney Docket No. 0630-0982P

holders, digital data file purchasing routes will be extended to vending machines, encoders, etc. In this case, file uploading from a digital data player to, for example, a personal computer terminal will have to be permitted at least under certain restrictions.

However, there is no conventional technique capable of, when a digital data file is intended to be uploaded from the digital data player to the personal computer terminal, identifying a provider of the digital data file and permitting the uploading within limits in accordance with the identified result. This fact becomes an obstacle to the proliferation of the digital data player.

SUMMARY OF THE INVENTION

Therefore, the present invention has been made in view of the above problems and it is an object of the present invention to provide a method for managing a digital audio data file such as MP3 and a digital video data file such as JPEG and a recording medium including a program for such management.

These and other objects are achieved by providing a method for managing a digital data file, comprising reading a header of a digital data file stored by an external device and controlling whether to upload said digital data file based on said read header.

These and other objects are further achieved by providing a program (or script) embodied on a computer-readable medium for managing a digital data file, said computer readable medium comprising a first program code segment to read a header of a digital data file stored by an external device; and a second program code segment to control whether to upload said digital data file based on said read header.

These and other objects are still further achieved by providing a computer data signal comprising a first signal segment to read a header of a

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digital data file stored by an external device, and a second signal segment to control whether to upload said digital data file based on said read header.

BRIEF DESCRIPTION OF THE DRAWINGS

The above and other objects, features and advantages of the present invention will be more clearly understood from the following detailed description taken in conjunction with the accompanying drawings, in which:

Fig. 1 is a block diagram illustrating the movement of digital data files from/to a digital data player; and

Fig. 2 is a view illustrating identification codes of digital data files in accordance with the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Fig. 1 is a block diagram illustrating the movement of digital data files from/to a digital data player, which is provided for the description of a digital data file duplication prevention method according to the present invention. A personal computer terminal 1 is connected to a communication network (not shown) such as the Internet for downloading a digital data file, which is supplied at a charge or free of charge. The personal computer terminal 1 stores the downloaded digital data file on a hard disk therein and reproduces the stored digital data file or downloads it to a digital data player 2. When the digital data player 2 intends to upload its digital data file, the personal computer terminal 1 checks an identification (ID) code in a header of the digital data file and permits the uploading within restrictions in accordance with the checked result. The digital data player 2 stores the digital data file downloaded from the personal computer terminal 1 in a digital data storage medium 3 and reproduces the stored digital data file. Also, the digital data player 2 reproduces an output digital data file received from a digital data

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vending machine 4 or an encoder 5, or the digital data player 2 uploads the received digital data file to the personal computer terminal 1.

The digital data storage medium 3 is made in a removable form and stores the digital data file from the digital data player 2 therein.
Alternatively, as shown by dashed lines, the digital data file is directly downloaded to the digital data storage medium 3, or, within the restrictions associated with the header, is directly uploaded from the digital data storage medium 3 to the personal computer terminal 1.

The digital data vending machine 4 is connected to a communication network such as the Internet and is installed at a roadside or a public place where many people pass, for selling digital data files at a charge. The encoder 5 downloads a digital data file transmitted over a specific transmission line and supplies the downloaded digital data file to the digital data player 2. As with the personal computer terminal 1, digital data files could be directly downloaded from the digital data vending machine 4 or the encoder 5 to the digital data storage medium 3 (not shown).

Now, a detailed description will be given of the digital data file duplication prevention method according to the present invention with reference to Figs. 1 and 2.

Firstly, the user has to register with a digital data file supplier in order to receive a digital data file from a digital data server (not shown). For user registration, the user is assigned an ID number and password from the digital data file supplier. Then, the user downloads a digital data software player in a software form from the digital data server through the communication network and sets the downloaded digital data software player as a digital data software player in the personal computer terminal 1. Thereafter, in order to download a desired digital data file from the digital data server through the personal computer terminal 1 and communication network, the user may have to pay a corresponding charge to the digital data

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file supplier and transmits his ID number and password to the digital data
server through the personal computer terminal 1 and communication
network. The digital data server identifies the user on the basis of the
transmitted ID number and password, and supplies the desired digital data
file to the user in accordance with the identified result. At this time, the
digital data server appends an ID code "01" to a header of the desired digital
data file to inhibit that file from being uploaded, and transmits the resultant
digital data file to the personal computer terminal 1.

The personal computer terminal 1 stores the digital data file
transmitted from the digital data server on the hard disk therein. Under
this condition, upon receiving a reproduction request from the user, the
personal computer terminal 1 decrypts and reproduces the stored digital
data file through the digital data software player. As a result, the user is
able to listen to the desired music when the digital data file is an audio file
such as an MP3 file and/or view the video when the digital data file is a video
file such as a JPEG file at any time through the personal computer terminal
1.

If the user intends to reproduce (listen and/or view) the digital data
file purchased along the above path using the digital data player 2, then the
personal computer terminal 1 downloads the purchased digital data file to
the digital data player 2. Then, the digital data player 2 stores the
downloaded digital data file in the digital data storage medium 3, which is
preferably made in the form of a removable memory card. If the user
requests the digital data player 2 to reproduce the digital data stored in the
digital data storage medium 3, then the digital data player 2 reads the stored
digital data file from the storage medium 3 and reproduces it through a
decoder therein. As a result, the user can listen and/or view the digital data
file anywhere using the digital data player 2. On the other hand, in the case
where a user tries to load a digital data file received along the above path,

but via a different personal computer, to the personal computer terminal 1 or to upload it through the digital data player 2, the personal computer terminal 1 identifies the digital data file on the basis of the ID code "01" and thus inhibits it from being loaded or uploaded.

5   Secondly, an ID code "00" is assigned to a header of a digital data file which is distributed without restriction (e.g., free of charge) to the personal computer terminal 1 on the communication network. If the user receives such a digital data file through the personal computer terminal 1, he can reproduce the received file freely through the personal computer terminal 1

10 or digital data player 2 as stated previously. Namely, when the user tries to upload the unrestricted digital data file from the digital data player 2 to the personal computer terminal 1, the personal computer terminal 1 identifies the digital data file as unrestricted on the basis of the ID code "00" , and thus permits that file to be uploaded without restriction.

15   Thirdly, an ID code "10" is assigned to a header of a digital data file which is distributed with limited restrictions (e.g., at a charge from the digital data vending machine 4 installed on a city roadside or a public place where many people pass). For example, in a preferred embodiment, limited restriction digital data may be uploaded once. If the user receives such a

20 limited restriction digital data file and tries to upload the limited restriction digital data file from the digital data player 2 to the personal computer terminal 1, the personal computer terminal 1 determines on the basis of the ID code "10" that the digital data file has limited restrictions (e.g., was sold from the digital data vending machine 4) and permits that file to be uploaded

25 only once. After permitting such uploading, the personal computer terminal 1 changes the ID code from "10" to "01" to inhibit further uploading. As a result, the user is able to upload the limited restriction digital data file only once to the personal computer terminal 1.

Fourthly, an ID code "11" is assigned to a header of a digital data file transmitted through a particular means, such as the encoder 5, and purchased under a desired contract with a supplier. In the case where the user downloads the digital data file through the encoder 5 and tries to upload the downloaded digital data file from the digital data player 2 to the personal computer terminal 1, the personal computer terminal 1 determines on the basis of the ID code "11" that the downloaded digital data file was transmitted through the encoder 5 and thus permits that file to be uploaded with no restriction.

While being described as resident at the personal computer terminal 1, the method according to the present invention is, in a further embodiment, initially stored as a program on a recording medium such as a magnetic or optical disk. This program is then uploaded to the personal computer terminal 1. Alternatively, this program forms part of the digital data player 2 transmitted to the personal computer terminal 1.

As apparent from the above description, according to the present invention, the digital data file is assigned with a code capable of identifying a provider. For example, when the digital data file is purchased at a charge and intended to be uploaded from the digital data player, it can be permitted to be uploaded under certain restrictions according to its code value. Therefore, the digital data file can be prevented from being illegally duplicated.

Although the preferred embodiments of the present invention have been disclosed for illustrative purposes, those skilled in the art will appreciate that various modifications, additions and substitutions are possible, without departing from the scope and spirit of the invention as disclosed in the accompanying claims.

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WHAT IS CLAIMED IS:

1. A method for managing a digital data file, comprising:

reading a header of a digital data file stored by an external device;

controlling whether to upload said digital data file based on said read header.

2. The method of claim 1, wherein said controlling step comprises:

prohibiting said digital data file from being uploaded from said external device when said read header matches a first predetermined header.

3. The method of claim 2, wherein said controlling step further comprises:

permitting uploading of said digital data file from said external device when said read header matches a second predetermined header.

4. The method of claim 3, wherein said controlling step further comprises:

permitting uploading of said digital data file from said external device when said read header matches a third predetermined header; and

changing said read header to said first predetermined header after uploading said digital data file when said read header matches said third predetermined header.

5. The method of claim 2, wherein said controlling step further comprises:

permitting uploading of said digital data file from said external device when said read header matches a second predetermined header; and

changing said read header to said first predetermined header after uploading said digital data file when said read header matches said second predetermined header.

6. The method of claim 1, wherein said external device is a digital data player.

7. The method of claim 1, wherein said external device is a digital data storage medium.

8. The method of claim 1, wherein said read header identifies a source of said digital data file.

9. The method of claim 1, wherein said digital data file is at least one of an audio file and a video file.

10. The method of claim 1, wherein said controlling step comprises:
permitting uploading of said digital data file from said external device when said read header matches a first predetermined header.

11. The method of claim 10, wherein said controlling step further comprises:
permitting uploading of said digital data file from said external device when said read header matches a second predetermined header; and
changing said read header to a third predetermined header after uploading said digital data file when said read header matches said second predetermined header, said third predetermined header indicating that no further uploads are permitted.

12. The method of claim 1, wherein said controlling step comprises:

permitting uploading of said digital data file from said external device when said read header matches a first predetermined header; and

changing said read header to a second predetermined header after uploading said digital data file when said read header matches said first predetermined header, said second predetermined header indicating that no further uploads are permitted.

13. A program (or script) embodied on a computer-readable medium for managing a digital data file, said computer readable medium comprising:

a first program code segment to read a header of a digital data file stored by an external device; and

a second program code segment to control whether to upload said digital data file based on said read header.

14. The computer-readable medium of claim 13, wherein the second program code segment comprises:

a first sub-program code segment to prohibit said digital data file from being uploaded from said external device when said read header matches a first predetermined header.

15. The computer-readable medium of claim 13, wherein the second program code segment comprises:

a first sub-program code segment to permit uploading said digital data file from said external device when said read header matches a first predetermined header.

16. The computer-readable medium of claim 13, wherein the second program code segment comprises:

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a first sub-program code segment to permit uploading of said digital data file from said external device when said read header matches a first predetermined header; and

a second sub-program code segment to change said read header to said second predetermined header after uploading said digital data file when said read header matches said first predetermined header, said second predetermined header indicating that no further uploads are permitted.

17. A computer data signal, comprising:

a first signal segment to read a header of a digital data file stored by an external device; and

a second signal segment to control whether to upload said digital data file based on said read header.

18. The computer data signal of claim 17, wherein the second signal segment comprises:

a first sub-signal segment to prohibit said digital data file from being uploaded from said external device when said read header matches a first predetermined header.

19. The computer data signal of claim 17, wherein the second signal segment comprises:

a first sub-signal segment to permit uploading said digital data file from said external device when said read header matches a first predetermined header.

20. The computer data signal of claim 17, wherein the second signal segment comprises:

a first sub-signal segment to permit uploading of said digital data file from said external device when said read header matches a first predetermined header; and

a second sub-signal segment to change said read header to a second predetermined header after uploading said digital data file when said read header matches said first predetermined header, said second predetermined header indicating that no further uploads are permitted.

ABSTRACT OF THE DISCLOSURE

The digital data file management method reads a header of the digital data file stored on an external medium. Based on the read header, the digital data file is selectively uploaded and/or managed.
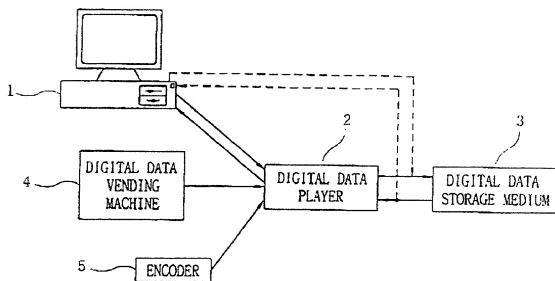
FIG. 1

FIG. 2A

| 0 | 0 | DIGITAL DATA FILE |

FIG. 2B

| 0 | 1 | DIGITAL DATA FILE |

FIG. 2C

| 1 | 0 | DIGITAL DATA FILE |

FIG. 2D

| 1 | 1 | DIGITAL DATA FILE |

HEADER

BIRCH, STEWART, KOLASCH & BIRCH, LLP

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FOR **PATENT** AND **DESIGN** APPLICATIONS

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DIGITAL DATA FILE DUPLICATION PREVENTION METHOD AND RECORDING
MEDIUM FOR RECORDING DIGITAL DATA FILE DUPLICATION PREVENTION
PROGRAM THEREON

Fill in Appropriate
Information -
For Use Without ➡
Specification
Attached:

the specification of which is attached hereto, If not attached hereto,

the specification was filed on_____ as

United States Application Number_____; and /or

the specification was filed on_____ as PCT

International Application Number_____; and was

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I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, §1.56.

I do not know and do not believe the same was ever known or used in the United States of America before my or our invention thereof, or patented or described in any printed publication in any country before my or our invention thereof or more than one year prior to this application, that the same was not in public use or on sale in the United States of America more than one year prior to this application, that the invention has not been patented or made the subject of an inventor's certificate issued before the date of this application in any country foreign to the United States of America on an application filed by me or my legal representatives or assigns more than twelve months (six months for designs) prior to this application, and that no application for patent or inventor's certificate on this invention has been filed in any country foreign to the United States of America prior to this application by me or my legal representatives or assigns, except as follows.

I hereby claim foreign priority benefits under Title 35, United States Code, §119 (a)-(d) of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

Insert Priority
Information: ➡
(if appropriate)

Prior Foreign Application(s)

			Priority Claimed	
4560/1999	Korea	02/10/1999	☒	☐
(Number)	(Country)	(Month/Day/Year Filed)	Yes	No
			☐	☐
(Number)	(Country)	(Month/Day/Year Filed)	Yes	No
			☐	☐
(Number)	(Country)	(Month/Day/Year Filed)	Yes	No
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(Application Number)	(Filing Date)	(Status - patented, pending, abandoned)

I hereby appoint the following attorneys to prosecute this application and/or an international application based on this application and to transact all business in the Patent and Trademark Office connected therewith and in connection with the resulting patent based on instructions received from the entity who first sent the application papers to the attorneys identified below, unless the inventor(s) or assignee provides said attorneys with a written notice to the contrary:

Terrell C. Birch	(Reg. No. 19,382)	Raymond C. Stewart	(Reg. No. 21,066)
Joseph A. Kolasch	(Reg. No. 22,463)	James M. Slattery	(Reg. No. 28,380)
Bernard L. Sweeney	(Reg. No. 24,448)	Michael K. Mutter	(Reg. No. 29,680)
Charles Gorenstein	(Reg. No. 29,271)	Gerald M. Murphy, Jr.	(Reg. No. 28,977)
Leonard R. Svensson	(Reg. No. 30,330)	Terry L. Clark	(Reg. No. 32,644)
Andrew D. Meikle	(Reg. No. 32,868)	Marc S. Weiner	(Reg. No. 32,181)
Joe McKinney Muncy	(Reg. No. 32,334)	Donald J. Daley	(Reg. No. 34,313)
C. Joseph Faraci	(Reg. No. 32,350)		

Send Correspondence to: **BIRCH, STEWART, KOLASCH & BIRCH, LLP**
P.O. Box 747 • Falls Church, Virginia 22040-0747
Telephone: (703) 205-8000 • Facsimile: (703) 205-8050

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I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

GIVEN NAME	FAMILY NAME	INVENTOR'S SIGNATURE	DATE*
Young-Soon	CHO		

Residence (City, State & Country)	CITIZENSHIP
Pyungtaek, Korea	Republic of Korea

POST OFFICE ADDRESS (Complete Street Address including City, State & Country)
Miju 2nd Apt. 104-612, Jisan-Dong, Pyungtaek, Kyungki-Do, Korea

GIVEN NAME	FAMILY NAME	INVENTOR'S SIGNATURE	DATE*
Jae-Young	KIM		

Residence (City, State & Country)	CITIZENSHIP
Seoul, Korea	Republic of Korea

POST OFFICE ADDRESS (Complete Street Address including City, State & Country)
Jukong 1st Apt. 103-504, Bun 3-Dong, Kangbook-Ku, Seoul, Korea

GIVEN NAME	FAMILY NAME	INVENTOR'S SIGNATURE	DATE*
Han	JUNG		

Residence (City, State & Country)	CITIZENSHIP
Seoul, Korea	Republic of Korea

POST OFFICE ADDRESS (Complete Street Address including City, State & Country)
Hyundai Apt. 2-1007, Dogok-Dong, Kangnam-Ku, Seoul, Korea

GIVEN NAME	FAMILY NAME	INVENTOR'S SIGNATURE	DATE*

Residence (City, State & Country)	CITIZENSHIP

POST OFFICE ADDRESS (Complete Street Address including City, State & Country)

GIVEN NAME	FAMILY NAME	INVENTOR'S SIGNATURE	DATE*

Residence (City, State & Country)	CITIZENSHIP

POST OFFICE ADDRESS (Complete Street Address including City, State & Country)

Full Name of First or Sole Inventor
Insert Name of Inventor
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Full Name of Fifth Inventor, if any
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